REMARKS

Applicant respectfully requests reconsideration of the present application in view of the reasons that follow.

No claims are currently being amended. Claims 1-11 remain pending in this application.

Rejections under 35 U.S.C. §§ 102 and 103

Claims 1 and 6-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,424,365 to Kimoto ("Kimoto"). Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kimoto in view of U.S. 2003/0002891 to Metzler et al. ("Metzler"). Claims 3-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kimoto in view of U.S. 2002/0176725 to Sato et al. ("Sato"). Applicant respectfully traverses these rejections for at least the following reasons.

Independent claim 1 recites:

An image forming apparatus having an automatic double-side unit and being capable of effecting printing on both surfaces of a paper sheet, comprising:

setting means for setting an adjustment mode at a time of effecting printing on both surfaces of the paper sheet;

first storage means for prestoring predetermined image data that is used in the adjustment mode set by the setting means;

first control means for executing a control to form an image on a first surface of the sheet using the image data stored in the first storage means, when the setting means sets the adjustment mode;

first measuring means for measuring a size of the image formed on the first surface of the sheet, when the image formed on the first surface of the sheet is subjected to thermal fixation and conveyed;

second control means for executing a control to form an image on a second surface of the sheet using the image data stored in the first storage means, when the sheet is reversely fed by the automatic double-side unit;

second measuring means for measuring a size of the image formed on the second surface of the sheet, when the image formed on the second surface of the sheet is subjected to thermal fixation and conveyed;

calculation means for calculating correction data for a printing magnification for image formation on the second surface of the sheet, on the

> *basis of a measurement result obtained by the first measuring means and a measurement result obtained by the second measuring means*; and
>> second storage means for storing the correction data calculated by the calculation means.

Kimoto fails to disclose or suggest any of the above italicized features of claim 1, or their resulting advantage in allowing for the measurement and correction of the variation in the image size generated for double sided printing in association with heat shrinkage between the first surface and the second surface of the paper sheet.

Kimoto discloses a system where when an obverse surface (first surface) of a sheet is printed on, the copying sheet is displaced by a distance L1 in the direction perpendicular to the conveying direction (col. 6, lines 18-24), and when a reverse surface (second surface) of a sheet is printed on, the copying sheet is displaced by a distance L2 in the direction perpendicular to the conveying direction (col. 6, lines 45-67), where the displacement is corrected for in printing. Kimoto further discloses a laser beam sensor 13, which senses a laser beam B, and which is disposed at a reference scan position Ps (FIG. 2, col. 3, lines 51-55).

Kimoto, however, does not disclose any of the above italicized features of claim 1. First, Kimoto does not disclose that its laser beam sensor measures the displacement of its sheet or image, much less the size of the image on the surfaces of the sheets. Kimoto discloses that the displacements L1 and L2 are measured at the time of shipment of the main body L by a person in charge (col. 7, lines 15-18), but does not disclose how the displacements are measured. Moreover, Kimoto merely discloses determining the <u>displacements</u> L1 and L2, not the <u>size</u> of the images on its obverse and reverse surfaces. Thus, Kimoto does not disclose either "first measuring means for <u>measuring a size of the image</u> formed on the first surface of the sheet, when the image formed on the first surface of the sheet is subjected to thermal fixation and conveyed" or "second measuring means for <u>measuring a size of the image</u> formed on the second surface of the sheet, when the image formed on the second surface of the sheet is subjected to thermal fixation and conveyed" as recited in claim 1.

Moreover, because Kimoto does not employ sensors which measure a size of the images on its obverse and reverse sides of its sheets, Kimoto necessarily does not disclose as recited in claim 1 "calculation means for calculating <u>correction data for a printing magnification</u> for image formation on the second surface of the sheet, <u>on the basis of a measurement result obtained by the first measuring means and a measurement result obtained by the second measuring means</u>." Kimoto does not correct for a printing magnification in the manner recited in claim 1.

Metzler and Sato fail to cure the deficiencies of Kimoto. Metzler merely discloses using registration marks for measuring cross-talk aberrations in the context of color errors. Even if Kimoto were modified to include registration marks for measuring cross-talk aberrations in the context of color errors, the combination would not suggest the calculation means of claim 1, which corrects data for a printing magnification for image formation on a second surface of a sheet, on the basis of a measurement result obtained by a first measuring means and a measurement result obtained by a second measuring means. Sato merely discloses multiple sensors to measure the position of the leading edge of a sheet with time, but does not disclose measuring the size of an image with its sensors, and fails to cure the deficiencies of Kimoto.

Moreover, Kimoto, Sato and Metzler do not suggest the advantages of the apparatus of claim 1 in allowing for the measurement and correction of the variation in the image size generated for double sided printing in association with heat shrinkage between the first surface and the second surface of the paper sheet. Kimoto merely corrects for the <u>displacement</u> of a sheet due to the variance among machines (col. 6, line 17-24), but does not measure the <u>size</u> of the images on both surfaces of a sheet in double printing, or correct for such image size variation due to heat shrinkage between the surfaces.

Independent claims 9 and 11 include features corresponding to the above italicized features of claim 1, and are patentable for analogous reasons.

The dependent claims are patentable for at least the same reasons as their respective independent claims, as well as for further patentable features recited therein.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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